Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Petition of the American Hotel & Lodging Association, Marriott International, Inc., and Ryman Hospitality Properties for a Declaratory Ruling to Interpret 47 U.S.C. § 333, or, in the Alternative, for Rulemaking	)	RM – 11737

REPLY COMMENTS OF THE CONSUMER ELECTRONICS ASSOCIATION IN OPPOSITION TO PETITION FOR DECLARATORY RULING OR RULEMAKING

Property owners may not block the operation of Wi-Fi devices. The Consumer Electronics Association ("CEA")[1] opposes the petition of the American Hospitality & Lodging Association, Marriott International, Inc. and Ryman Hospitality Properties that seeks a declaratory ruling or, in the alternative, a rulemaking proceeding to the contrary.[2] End users – not property owners – possess the right to operate Wi-Fi devices. Third-party disruptions of that right are unlawful and contrary to the public interest.

[1] CEA is the principal U.S. trade association of the consumer electronics and information technologies industries. CEA's more than 2,000 member companies lead the consumer electronics industry in the development, manufacturing and distribution of audio, video, mobile electronics, communications, information technology, multimedia, and accessory products, as well as related services, that are sold through consumer channels. Ranging from giant multi-national corporations to specialty niche companies, CEA members cumulatively generate more than $211 billion in annual factory sales and employ tens of thousands of people in the United States.

[2] *See* American Hospitality & Lodging Association, Marriott International, Inc., and Ryman Hospitality Properties, Petition for Declaratory Ruling to Interpret 47 U.S.C. § 333, or, in the Alternative, For Rulemaking (Aug. 25, 2014); *see also* Consumer & Governmental Affairs Bureau, Public Notice, Report No. 3012 (Nov. 19, 2014).

The lodging industry maintains nearly 5 million guest rooms nationally[3] and more than 100 million Americans live in rental properties.[4] The ability of consumers and businesses to communicate and conduct their affairs using Wi-Fi data connections should not depend on whether individuals have ownership rights in locations in which they live, work or visit.

CEA thus opposes the Petition, along with the vast majority of the commenters in this proceeding, and urges the Commission to unambiguously hold that Wi-Fi devices are entitled to protection from willful and malicious interference under federal law, consistent with both the plain text of the Communications Act of 1934, as amended, and the Commission's longstanding interpretation of section 333 of the Act. Similarly, while there is a legitimate and pressing need for network management and security for Wi-Fi systems, the Commission should affirm that Wi-Fi operators may not transmit de-authentication frames to third-party Wi-Fi systems or devices. Network management and security practices are critical, but should be limited to an operator's own system, not the Wi-Fi systems of other service providers.

DISCUSSION

I. Part 15 Devices Are Entitled to Protection From Willful or Malicious Interference Under 47 U.S.C. § 333.

CEA supports the position of the vast majority of the commenters, including dozens of individual citizens, holding that Part 15 devices are entitled to protection from willful or malicious interference under 47 U.S.C. § 333.[5] The statute on its face extends protection to both

[3] American Hotel & Lodging Association, http://www.ahla.com/content.aspx?id=36332 (figure based on 2013 data) (last visited December 31, 2014).

[4] National Multifamily Housing Council, http://www.nmhc.org/Content.aspx?id=4708 (figure based on 2014 U.S. Census Bureau survey data) (last visited December 31, 2014).

[5] *See, e.g.*, Opposition of Google Inc. at 2 (Dec. 19, 2014); Comments of Microsoft Corporation at 1 (Dec. 19, 2014); Opposition of the National Cable & Telecommunications Association at 3-4 (Dec. 19, 2014); Comments of CTIA–The Wireless Association at 3-5 (Dec. 19, 2014);

licensed and authorized radio stations.[6] Wi-Fi devices are authorized unlicensed equipment operating pursuant to Part 15 of the Commission's rules and, accordingly, qualify for protection under the statute.[7]

There is no basis to conclude, as the Petitioners and others argue, that Wi-Fi devices are not "stations" subject to protection under 47 U.S.C. § 333.[8] The Commission's rules, which are based on the International Telecommunication Union Radio Regulations ("ITU RR"), broadly define a station as "one or more transmitters or receivers or a combination of transmitters and receivers . . . necessary at one location for carrying on a radiocommunication service."[9] A radiocommunication service is defined as "[a] service as defined in this Section involving the transmission, emission and/or reception of radio waves for specific telecommunication purposes."[10] Wi-Fi devices are comprised of both a transmitter and receiver and use radio waves to provide fixed two-way data communications and, accordingly, readily meet this definition.[11]

Opposition of Open Technology Institute at New America Foundation and Public Knowledge to Petition for Declaratory Ruling or, in the Alternative, For Rulemaking at 4-5 (Dec. 19, 2014); Opposition of the Wireless Internet Service Providers Association to Petition for Declaratory Ruling or, in the Alternative, For Rulemaking at 4-5 (Dec. 19, 2014).

[6] 47 U.S.C. § 333 ("No person shall willfully or maliciously interfere with or cause interference to any radio communications of any station *licensed or authorized* by or under this chapter or operated by the United States Government.")(emphasis added).

[7] Wi-Fi devices also must comply with Part 2 of the FCC's rules regarding equipment authorizations. *See* 47 C.F.R. §§ 2.901 *et seq*.

[8] *See, e.g.*, Petition at 16; Joint Comments of Aruba Networks, Inc. and Ruckus Wireless, Inc. at 9 (Dec. 19, 2014); Comments of Smart City Networks, LP at 8-9 (Dec. 19, 2014).

[9] 47 C.F.R. § 2.1; ITU RR § 1.61.

[10] 47 C.F.R. § 2.1; ITU RR § 1.19.

[11] The one case cited by the Petitioners in support of its argument that Part 15 devices do not provide a radiocommunication service is inapposite. Petition at 16 (citing *Revision of Part 15 of the Commission's Rules Regarding Ultra-Wideband Transmission Systems*, Order, 17 FCC Rcd 13522 ¶ 7 n.7 (2002)). In that decision, the Office of Engineering and Technology (and not the full Commission) simply concluded that Part 15 devices, as a matter of law, could not cause

The Commission has also stated repeatedly that Wi-Fi devices are entitled to interference protection under 47 U.S.C. § 333.[12] For example, the Commission recently released an Enforcement Advisory reminding the public that operation of devices that block, jam or otherwise interfere with radio communications, including devices that "prevent . . . [a] Wi-Fi enabled device from connecting to the Internet" are illegal.[13] Moreover, the Commission has previously taken action to prevent interference to unlicensed devices in other contexts. For example, in 1995, as part of a rulemaking proceeding to establish a new Location and Monitoring Service ("LMS"), operating in the 902-928 MHz band, the Commission established a rule designed to protect co-channel Part 15 devices by requiring licensees, as a license condition, to "demonstrate through actual field tests that their systems do not cause unacceptable levels of interference to Part 15 devices."[14]

"harmful interference" to other Part 15 devices and not that Part 15 devices must suffer willful or malicious interference. *Cf. Continental Airlines Petition for Declaratory Ruling Regarding the Over-The-Air Reception Devices (OTARD) Rules*, Memorandum Opinion and Order, 21 FCC Rcd 13201 (2006) (concluding that Wi-Fi signals are "fixed wireless signals" subject to the OTARD rules).

[12] *See, e.g.*, FCC Enforcement Advisory, "Cell Jammers, GPS Jammers, and Other Jamming Devices," 26 FCC Rcd 1329 (Feb. 9, 2011) (citing 47 U.S.C. § 333 for support that "it is a violation of federal law to use devices that intentionally block, jam, or interfere with authorized radio communications such as . . . Wi-Fi."); FCC Enforcement Advisory, "Cell Jammers, GPS Jammers, and Other Jamming Devices," 26 FCC Rcd 1327 (Feb. 9, 2011)(operation of jamming devices, "including devices that interfere with ... wireless networking services (Wi-Fi)" is prohibited under 47 U.S.C. § 333).

[13] FCC Enforcement Advisory, "Warning: Jammer Use Is Prohibited," Public Notice, Enforcement Bureau, DA 14-1785 (rel. Dec. 8, 2014).

[14] *In the Matter of Location and Monitoring Service Systems*, Report and Order, 10 FCC Rcd 4695 ¶ 82 (1995); 47 C.F.R. § 90.353(d).

The Commission also has taken the position that Wi-Fi systems are protected under the Over-The-Air Reception Devices ("OTARD") rules.[15] The OTARD rules were implemented to ensure that property owners could not impede access to new technologies or inhibit competition.[16] These same reasons support the conclusion that the interference protection of section 333 applies to Wi-Fi devices and refute the Petitioners' arguments that such a conclusion is inconsistent with the OTARD rules.[17]

II. Wi-Fi Operators May Manage the Network and Security of Their *Own* Wi-Fi Systems, But Not the Systems of Others

The recent data breaches of major international corporations highlight the importance of implementing strong cyber security measures for data networks.[18] The President has also stated

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[15] *Continental Airlines Petition for Declaratory Ruling Regarding the Over-The-Air Reception Devices (OTARD) Rules*, Memorandum Opinion and Order, 21 FCC Rcd 13201 (2006).

[16] *See, e.g., Preemption of Local Zoning Regulation of Satellite Earth Stations and Implementation of Section 207 of the Telecommunications Act of 1996, Restrictions on Over-The-Air Reception Devices: Television Broadcast Service and Multichannel Multipoint Distribution Service*, Report and Order, 11 FCC Rcd 19276 ¶ 6 (1996) ("The rule is designed to promote two complementary federal objectives: (a) to ensure that consumers have access to a broad range of video programming services, and (b) to foster full and fair competition among different types of video programming services."); *Promotion of Competitive Networks in Local Telecommunications Markets*, First Report and Order and Further Notice of Proposed Rulemaking, Fifth Report and Order and Memorandum Opinion and Order, Fourth Report and Order and Memorandum Opinion and Order, 15 FCC Rcd 22983 ¶¶97-100 (2000) (expanding OTARD rules to apply to fixed wireless signals and to include voice and data services).

[17] Petition at 18-19. CEA also disputes the Petitioners' blanket statement that hotel guests "are at most invitees or licensees," having no rights under the OTARD rules. *Id*. at 19. For example, generally under California law, residents of hotels and motels that have resided in a hotel or motel for longer than 30 days have the same legal rights as tenants. *See* Ca. Civil Code § 1940(a); *see also* California Department of Consumer Affairs, http://www.dca.ca.gov/publications/landlordbook/whois.shtml.

[18] *See, e.g*., Danny Yadron, Wall Street Journal, "Corporate Boards Race to Shore Up Cybersecurity" (Jun. 29, 2014), *available at* http://www.wsj.com/articles/boards-race-to-bolster-cybersecurity-1404086146; Jim Finkle and Alina Selyukh, Reuters, "U.S. industry too complacent about cyber risks, say experts" (May 16, 2014), *available at*

that "[i]t is the policy of the United States to maintain a cyber environment that encourages efficiency, innovation, and economic prosperity while promoting safety, security, business confidentiality, privacy, and civil liberties."[19] Accordingly, CEA recognizes that there is a legitimate and pressing need for network management and security of Wi-Fi systems.[20]

While a Wi-Fi operator could block access to *its own system* by unauthorized devices, section 333 of the Communications Act prohibits an operator from blocking access of devices to *other Wi-Fi systems*.[21] Many of the practices that the Petitioners propose to be sanctioned by the Commission fall into the latter category.[22] Moreover, practices that involve knowingly transmitting false information to third-party devices raise questions about possible violations of section 303(m)(1)(D)(1) of the Communications Act, as amended.[23]

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http://www.reuters.com/article/2014/05/16/us-cyber-summit-infrastructure-idUSBREA4F0OK20140516.

[19] *See* "Improving Critical Infrastructure Cybersecurity," Executive Order No. 13636, 78 FR 11739 (Feb. 19, 2013).

[20] For these same reasons, the FCC should reject the call to revoke the equipment authorization of network management devices. *See* Opposition of Open Technology Institute at New America Foundation and Public Knowledge to Petition for Declaratory Ruling or, in the Alternative, For Rulemaking at 14 (Dec. 19, 2014).

[21] *See, e.g.*, Comments of Brown University at 2 (Brown University "may restrict access to *Brown's network* . . . . Brown does not restrict the operation of [a third-party] router or hotspot" that connects to the Internet without interacting with Brown's network facilities.)(emphasis in original); Opposition of the National Cable & Telecommunications Association at 14-15 ("A network manager's use of deauthentication packets to disconnect an unauthorized user from its own network implicates no bad faith. . . . This is in stark contrast, however, to Marriott's admitted attempt to use these tools to control all of the unlicensed spectrum on its property.").

[22] For example, the Petitioners propose that a property owner should be permitted to disable the ability of any Wi-Fi device seeking to connect to an "unauthorized" access point simply because the access point is located on the operator's property. Petition at 9.

[23] 47 U.S.C. § 303(m)(1)(D)(1) (Commission has "authority to suspend the license of any operator . . . [that] has knowingly transmitted . . . [f]alse or deceptive signals or communications."). The transmission of de-authentication packets to a Wi-Fi device forcing it to

There are alternatives to the network management and security practices proposed by Petitioners. For example, with respect to access point spoofing or "honey pot" attacks, informing consumers or guests about proper log-in procedures and providing the correct information regarding the authorized Wi-Fi network could defuse such threats.[24] Similarly, with respect to corporate or educational institution policies prohibiting unauthorized Wi-Fi use, property owners could implement a rule prohibiting such devices on the premises, as the Petitioners themselves concede.[25] Quite apart from the intrinsic benefits of free expression and fairness associated with allowing consumers to choose their preferred source of Wi-Fi connectivity based on their needs and budget, consumer education will generate more reliable, cost-effective, and secure network data connections more often and more consistently than would allowing property owners to serve as the arbiters of consumer broadband consumption that happens to occur on the owners' premises.

III. The Public Interest Would Be Served By Concluding That End Users – Not Property Owners – Possess the Right to Operate Wi-Fi Devices

Today, personal Wi-Fi networks and devices are everywhere. One study referenced by the Commission indicates that by 2017 the average U.S. household will have 11 Wi-Fi devices.[26] Mobile operators market Wi-Fi hotspot devices to consumers, and many smartphones offer the

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disassociate from an access point unaffiliated with the Wi-Fi system of the property owner arguably meets this definition.

[24] Petition at 7.

[25] Petition at 21.

[26] *In the Matter of Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993 Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, Seventeenth Report, DA 14-1862 ¶ 211 n. 276 (WTB Dec. 18, 2014) (citing *US Wi-Fi Households to Own Average of 11 Wi-Fi Devices in 2017 says Strategy Analytics*, Press Release, Strategy Analytics, Feb. 27, 2014, *available at* http://www.strategyanalytics.com/default.aspx?mod=pressreleaseviewer&a0=5483).

same functionality, ensuring that consumers have ubiquitous Internet connectivity.[27] Similarly, mobile operators have deployed Wi-Fi networks to decrease congestion on licensed cellular networks,[28] and fixed broadband providers have done so to offer enhanced functionality of their own service offerings.[29] Moreover, the Commission is exploring whether Wi-Fi networks in the near future may be used to facilitate location accuracy in emergency situations.[30] Such widespread, productive use of unlicensed spectrum could be jeopardized by any Commission decision concluding that property owners have greater spectrum rights than others.

The number of consumers and small business potentially affected by awarding property owners rights to manage on-site Wi-Fi networks is hardly trivial, either. The lodging industry maintains nearly 5 million guest rooms nationally,[31] and more than 100 million Americans live in rental properties.[32] The ability of consumers and businesses to communicate and conduct their

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[27] *See id.* ¶ 211 ("Mobile wireless providers offer wireless data cards and mobile Wi-Fi hotspots to consumers seeking mobile Internet connections for laptop computers and other Wi-Fi enabled devices.").

[28] *See id.* ¶ 103 ("U-NII[, Unlicensed National Information Infrastructure,] devices play an important role in meeting public demand for wireless broadband service.").

[29] *See* "Comcast Unveils Plans for Millions of Xfinity WiFi Hotspots" (June 10, 2013), *available at* http://corporate.comcast.com/news-information/news-feed/comcast-unveils-plans-for-millions-of-xfinity-wifi-hotspots-through-its-home-based-neighborhood-hotspot-initiative-2.

[30] *See* Public Notice, "Public Safety and Homeland Security Bureau Seeks Comment in the E911 Location Accuracy Proceeding on the Location Accuracy 'Roadmap' Submitted by APCO, NENA, and the Four National Wireless Carriers," PS Docket No. 07-114 (Nov. 20, 2014) (inviting comments, *inter alia*, on a E911 proposal that would establish a national emergency address database for Wi-Fi systems); *see also* Comments of SirenGPS, Inc. (Dec. 29, 2014) ("The SirenGPS platform is part of an emerging solution sector that employs Wi-Fi signal[s] as well as cellular data to deliver public safety related information to consumers, emergency managers and to public safety answering points.").

[31] American Hotel & Lodging Association, http://www.ahla.com/content.aspx?id=36332 (figure based on 2013 data) (last visited December 31, 2014).

[32] National Multifamily Housing Council, http://www.nmhc.org/Content.aspx?id=4708 (figure based on 2014 U.S. Census Bureau survey data) (last visited December 31, 2014).

affairs using Wi-Fi data connections should not depend on whether individuals have ownership rights in locations in which they live, work or visit. Indeed, such a policy would have troubling implications in terms of the discriminatory effect on access to communications services.[33]

Data from the National Multifamily Housing Council, for example, indicates that the median annual income for renters is $25,768 compared to a median annual income for owner-occupied households of $45,964.[34] In addition, 20% of renters are Hispanic but only 12% of owner-occupied households are Hispanic.[35] People under 30 years old make up 22.71% of renters but only 3.94% of owners.[36] This data shows that any policy decision granting property owners greater spectrum rights would have a disparate impact on individuals with lower income, minorities, and the nation's youth. The Commission should not take any action or adopt any policy that furthers the digital divide in the United States.[37]

For all of these reasons, CEA urges the FCC to conclude that Wi-Fi devices are entitled to protection from willful and malicious interference under federal law and that a Wi-Fi operator

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[33] *See, e.g.,* 47 U.S.C. § 706 (The FCC "shall encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans.").

[34] National Multifamily Housing Council, http://www.nmhc.org/Content.aspx?id=4708 (figures based on 2011 survey data) (last visited December 31, 2014).

[35] *Id*. (figures based on 2011 survey data). The data available does not include information on other demographic groups.

[36] *Id.* (figures based on 2013 survey data).

[37] *In the Matter of Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, Eighth Annual Report, 27 FCC Rcd 10342 ¶ 122 (2012) (citing an NTIA report for the persistence of a digital divide among "households with lower incomes and less education, as well as Blacks, Hispanics, and people with disabilities, and rural residents.").

may not transmit de-authentication frames to third-party Wi-Fi systems or devices located on the operator's property.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Deborah Johnson, hereby certify that on January 5, 2015, a true and correct copy of these Reply Comments was sent via U.S. Mail, first class postage prepaid, to the following:

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